

# Staple foods intake is associated with irritable bowel syndrome in Japanese adults

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# 学 位 論 文 要 約

博士論文題目 Staple foods intake is associated with irritable bowel syndrome in Japanese adults  
(日本人成人における主食摂取と過敏性腸症候群の関連について)

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**Background:** High-carbohydrate diet induces symptoms of irritable bowel syndrome (IBS) because carbohydrate may cause gastrointestinal symptoms due to incomplete absorption in the small bowel. Staple foods in Japan generally consist of rice, wheat, and buckwheat as the major source of carbohydrate, and thus, it is possible that these staple foods may be associated with the prevalence of IBS.

**Objective:** The purpose of this observational and cross-sectional study was to assess the association between staple foods consumption, such as rice, Japanese wheat noodles, Chinese noodles, bread, pasta, and buckwheat noodles, and prevalence of IBS in Japanese adults.

**Methods:** This cross-sectional study is a part of the Oroshisho Study, a prospective study of lifestyle-related illnesses and health status of adult workers working at companies registered in a cooperative group organization of wholesale companies, the Sendai Oroshisho Center in which over 250 small and medium sized wholesale distributors handling food, textile, fuel, commodity products, building materials and industrial products are registered. One thousand eighty-four (839 men and 245 women) Japanese adult employees aged 19–83 were included in this cross-sectional study. IBS diagnosis was based on Rome criteria. Consumption of staple foods was assessed by using a brief self-administered diet history questionnaire, and divided into three categories (low, middle, high) depending on their distribution.

**Results:** A total of 242 (22.3%) participants were diagnosed as having IBS. In the multivariate analysis, daily consumption of rice (ORs and [95% CI]: middle, 1.27 [0.87–1.77]; high, 1.60 [1.09–2.33]; *P* for trend = 0.015), bread (middle, 1.70 [1.18–2.44]; high, 1.54 [1.06–2.22]; *P* for trend = 0.020), pasta (middle, 1.46 [1.02–2.09]; high, 1.65 [1.12–2.42]; *P* for trend = 0.009), and buckwheat noodles (middle, 1.69 [1.16–2.47]; high, 2.01 [1.36–2.98]; *P* for trend = 0.001) have been associated with higher prevalence of IBS after adjustment for socio-demographic, anthropometric, and lifestyle-related factors. Significant associations disappeared when the association was adjusted for daily intakes of carbohydrate or plant proteins except for buckwheat noodles.

**Conclusions:** This cross-sectional observational study demonstrated that consumption of major staple foods in Japan,

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such as rice, bread, pasta, and buckwheat noodles were positively associated with the prevalence of IBS in Japanese adults. Daily intakes of carbohydrate or overall plant protein may be mediating the positive association of IBS prevalence with rice and wheat. Intake of buckwheat noodles was positively associated with IBS prevalence independent of carbohydrate and plant protein intakes. Further studies will be needed to confirm these observations.